

CLAIMS:

What is claimed is:

- 1 1. A method comprising:
2 generating a packet for transmission via a select one or more antenna(e) of a transmitting
3 device; and
4 including with the generated packet one or more training symbol(s), at least one each for
5 at merely a subset of the number of antenna(e) of the transmitting device, wherein the packet is
6 generated for purposes other than the transmission of the training symbols.
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- 1 2. A method according to claim 1, wherein the packet is one or more of a data packet, a
2 handshaking packet, an acknowledgement packet, and any combination thereof, and wherein the
3 included training symbol(s) are embedded within, or appended to, the generated packet.
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- 1 3. A method according to claim 2, wherein the packet is one or more of a request to send
2 (RTS) packet and a clear to send (CTS) packet.
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- 1 4. A method according to claim 3, wherein the generated packet is used as a training symbol
2 for transmission via at least one select transmit antenna.
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- 1 5. A method according to claim 4, wherein the at least one transmit antenna is selected as
2 the one providing a best performance metric at a receiver when compared against other transmit
3 antenna options.
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1 6. A method according to claim 5, wherein the performance metric is a signal to noise ratio
2 (SNR).

1 7. A method according to claim 5, wherein the included one or more training symbols are
2 transmit via a select subset of a plurality of transmit antenna(e).

1 8. A method according to claim 7, wherein the select subset of transmit antenna include at
2 least a subset of remaining antenna(e) that were not used for transmission of the handshaking
3 packet.

1 9. A method according to claim 3, wherein the included one or more training symbol(s) are
2 transmit via a select subset of a plurality of transmit antenna(e).

1 10. A method according to claim 9, wherein the select subset of transmit antenna is selected
2 as the one providing a best performance metric at a receiver when compared against other
3 transmit antenna options.

1 11. A method according to claim 2, further comprising:
2 transmitting the packet to a remote device as a training symbol via a select first of a
3 plurality of antenna(e); and
4 transmitting the included training symbols to the remote device via a select second or
5 more of the plurality of antenna(e) to enable the remote device to perform training.

- 1 12. A method according to claim 11, further comprising:
2 receiving at least a packet from the remote device, wherein the packet is used as a
3 training symbol; and
4 performing calibration of one or more transmit chains based, at least in part, on channel
5 performance information associated with the received training symbol(s).
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- 1 13. A storage medium comprising content which, when executed, causes an accessing
2 communication device to implement a method including:
1 generating a packet for transmission via a select one or more antenna(e) of a transmitting
2 device; and
3 including with the generated packet one or more training symbol(s), at least one each for
4 at merely a subset of the number of antenna(e) of the transmitting device, wherein the packet is
5 generated for purposes other than the transmission of the training symbols.
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- 1 14. A storage medium according to claim 13, wherein the packet is one or more of a data
2 packet, a handshaking packet, an acknowledgement packet, and any combination thereof.
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- 1 15. A storage medium according to claim 14, wherein the packet is a handshaking packet
2 comprising one or more of a request to send (RTS) packet and a clear to send (CTS) packet.
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- 1 16. A storage medium according to claim 14, wherein the generated packet is used as a
2 training symbol for transmission via at least one select transmit antenna.
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1 17. A storage medium according to claim 16, wherein the at least one transmit antenna is
2 selected as the one providing a best performance metric at a receiver when compared against
3 other transmit antenna options.

1 18. A storage medium according to claim 17, wherein the included one or more training
2 symbols are transmit via a select subset of a plurality of transmit antenna(e).

1 19. A storage medium according to claim 18, wherein the select subset of transmit antenna
2 include at least a subset of remaining antenna(e) that were not used for transmission of the
3 handshaking packet.

1 20. A storage medium according to claim 19, wherein the included one or more training
2 symbol(s) are transmit via a select subset of a plurality of transmit antenna(e).

1 21. A storage medium according to claim 14, wherein the included one or more training
2 symbol(s) are transmit via a select subset of a plurality of transmit antenna(e).

1 22. A storage medium according to claim 21, wherein the select subset of transmit antenna is
2 selected as the one providing a best performance metric at a receiver when compared against
3 other transmit antenna options.

1 23. A storage medium according to claim 14, further comprising instructions to cause the
2 accessing device to:

3 transmit the generated packet to a remote device as a training symbol via a select first of
4 a plurality of antenna(e); and

5 transmit the included training symbols to the remote device via a select second or more of
6 the plurality of antenna(e) to enable the remote device to perform training.

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1 24. A storage medium according to claim 23, further comprising content to enable an
2 accessing device to:

3 receive at least a packet from the remote device, wherein the packet is used as a training
4 symbol; and

5 perform one or more of training and calibration of one or more transmit chains based, at
6 least in part, on channel performance information associated with the received training
7 symbol(s).

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1 25. An apparatus comprising:

2 one or more transmit antenna(e), to enable wireless communication with a remote device;
3 and

4 a controller, coupled with the one or more transmit antenna(e), to generate a packet for
5 transmission via a select one or more of the transmit antenna(e), and to selectively include with
6 the generated packet one or more training symbol(s), at least one each for at merely a subset of
7 the number of antenna(e) of the transmitting device, wherein the packet is generated for purposes
8 other than the transmission of the training symbols.

1 26. An apparatus according to claim 25, wherein the packet is one or more of a data packet, a
2 handshaking packet, an acknowledgement packet, and any combination thereof, and wherein the
3 training symbol(s) are embedded within, or appended to, the generated packet.

1 27. An apparatus according to claim 26, wherein the controller generates one or more of a
2 request to send (RTS) packet and a clear to send (CTS) packet as the generated packet.

1 28. An apparatus according to claim 26, wherein the controller issues the generated packet as
2 a training symbol for transmission via at least one select transmit antenna.

1 29. An apparatus according to claim 26, wherein the controller selects the at least one
2 transmit antenna for transmission based, at least in part, on an indication of a receive
3 performance metric at the remote device.

1 30. An apparatus according to claim 29, wherein the select antenna is determined to provide
2 a best receive performance at the remote device as compared to other transmit antenna(e)
3 options.

1 31. An apparatus according to claim 29, wherein the performance metric is a signal to noise
2 ratio (SNR) at the remote device.

1 32 An apparatus according to claim 29, wherein the controller selects at least one or more of
2 a remaining subset of the plurality of transmit antenna(e) to transmit the one or more training
3 symbol(s).

1 33. An apparatus according to claim 32, wherein the select subset of transmit antenna
2 include at least a subset of remaining antenna(e) that were not used for transmission of the
3 generated packet.

1 34. An apparatus according to claim 26, further comprising:
2 a transmitter, coupled between the controller and the transmit antenna(e), to transmit the
3 packet to a remote device as a training symbol via a select first of a plurality of antenna(e), and
4 to transmit the included training symbols to the remote device via a select second or more of the
5 plurality of antenna(e) to enable the remote device to perform training.

1 35. An apparatus according to claim 26, further comprising:
2 a receiver, coupled between the controller and one or more receive antenna(e), to receive at least
3 a packet from the remote device, wherein the packet is used as a training symbol, to enable the
4 controller to perform calibration of one or more transmit chains based, at least in part, on channel
5 performance information associated with the received training symbol(s).

1 36. An apparatus according to claim 35, wherein the transmit antenna(e) and the receive
2 antenna(e) are one in the same.

1 37. An apparatus comprising:
2 a storage medium in which to store at least executable content; and
3 control logic, coupled to the storage medium, to selectively execute at least a subset of
4 the executable content stored therein to generate a packet for transmission via a select one or
5 more of a plurality of transmit antenna(e), and to selectively include with the generated packet
6 one or more training symbol(s), at least one each for at merely a subset of the number of
7 antenna(e) of the transmitting device, wherein the packet is generated for purposes other than the
8 transmission of the training symbols.

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1 38. An apparatus according to claim 37, wherein the packet is one or more of a data packet, a
2 handshaking packet, an acknowledgement packet, and any combination thereof, and wherein the
3 training symbol(s) are embedded within, or appended to, the generated packet.

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1 39. An apparatus according to claim 37, further comprising:
2 a transmitter, coupled to the control logic, to transmit the packet to a remote device as a
3 training symbol via a select first of a plurality of antenna(e), and to transmit the included training
4 symbols to the remote device via a select second or more of the plurality of antenna(e) to enable
5 the remote device to perform training

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1 40. An apparatus according to claim 39, wherein the control logic selectively executes
2 content to select the first antenna from the plurality of antenna(e) based, at least in part, on a
3 received or perceived indication of channel performance at the remote device.

1 41. An apparatus according to claim 37, further comprising:
2 a receiver, coupled with the control logic, to receive at least a packet from the remote
3 device, wherein the packet is used as a training symbol, and to enable the control logic to
4 perform calibration of one or more transmit chains based, at least in part, on channel
5 performance information associated with the received training symbol(s).

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